

control²

User Guide

BX600 Digital KVM Switch

Keyboard/Video/Mouse Switch

English



USA Notification

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

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BX600 Digital KVM Switch

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Certified documentation according to DIN EN ISO 9001:2000

To ensure a consistently high quality standard and user-friendliness, this documentation was created to meet the regulations of a quality management system which complies with the requirements of the standard DIN EN ISO 9001:2000.

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1 Product Overview

1.1 Features and Benefits

The Fujitsu Siemens BX600 Digital KVM Switch is integrated in your Fujitsu Siemens BX600 blade chassis. It allows you to manage many server modules through a single keyboard, monitor, and mouse. In addition, through virtual media, you can control your remote servers as if you were physically present.

You can also connect cables from the BX600 Digital KVM Switch to a KVM appliance such as the Fujitsu Siemens s3-1621 Console Switch. This capability allows you to create large combinations of servers and switches that you can manage from a common access point or over your IP network.

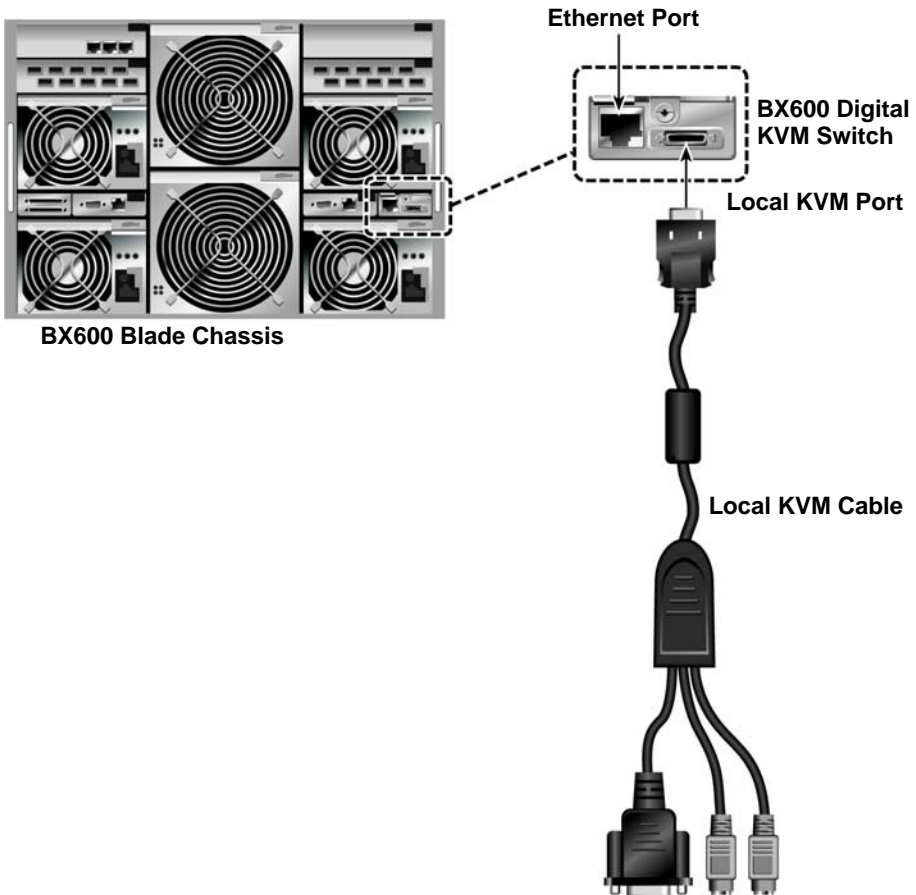


Figure 1: BX600 Digital KVM Switch

1.1.1 OSCAR Graphical User Interface

Select the server you would like and then manage it using the On Screen Configuration and Activity Reporting (OSCAR) interface. OSCAR's intuitive menus make managing your BX600 Digital KVM Switch system easy.

1.1.2 Network Connectivity

Using an ethernet connection, you can attach your BX600 Digital KVM Switch to your network, allowing you to control the blade servers and any attached virtual media appliances remotely.

1.1.3 Control of Virtual Media

The BX600 Digital KVM Switch allows you to view, move, or copy data from your client machine to any blade server. This feature enables you to manage remote systems by allowing you to install operating systems, recover hard drives, and back up servers, to name a few examples.

1.1.4 Security

OSCAR allows you to protect your system with a screen saver password. After an amount of time that you define, the screen saver mode engages and access is prohibited until you enter the appropriate password to reactivate your system.

1.1.5 Scanning

When in Scan Mode, OSCAR allows you to visually monitor server modules by displaying them one at a time, for the amount of time you specify.

1.1.6 Identify Server Modules

Through OSCAR, you can easily assign names to server modules for your convenience. (By default all server modules are given the name Slot followed by the slot number.)

1.1.7 Tiering

The BX600 Digital KVM Switch can be set up in tiers from an existing Fujitsu Siemens KVM switch. The server modules can then be accessed through the software of the Fujitsu Siemens KVM switch.

1.2 Notational Conventions

The following notational conventions are used in this manual:

Bold	This indicates emphasis in the text.
<u>Key</u>	This indicates keys or key combinations in continuous text.
<i>Italics</i>	This indicates commands, file names, menu names and inputs in continuous text.



This indicates additional information and tips.



Title This indicates information, which if not heeded, may jeopardize your health, the functioning of your system or the security of your data.

► This indicates a step that you have to perform.

- and • These characters symbolize itemized lists.

Bold This indicates user inputs in examples.
monospace
font

2 Installation

You can deploy the BX600 Digital KVM Switch Module into most existing KVM infrastructures. In addition, you can set up the BX600 Digital KVM Switch in tiers from Fujitsu Siemens branded KVM appliances such as the Fujitsu Siemens s3-1621 Console Switch and analog s2-0801 and s2-1602 switches. It can also be tiered from other industry products that support the OSCAR interface.

2.1 Configuring the BX600 Digital KVM Switch

Before using the BX600 Digital KVM Switch or configuring it into tiers, you must first set it up for basic use. Figure 2 displays a basic configuration for the BX600 Digital KVM Switch.

To connect the BX600 Digital KVM Switch:

- ▶ Connect the local KVM cable to the appropriate port on the BX600 Digital KVM Switch.
- ▶ Connect the keyboard, monitor, and mouse to the local KVM cable.

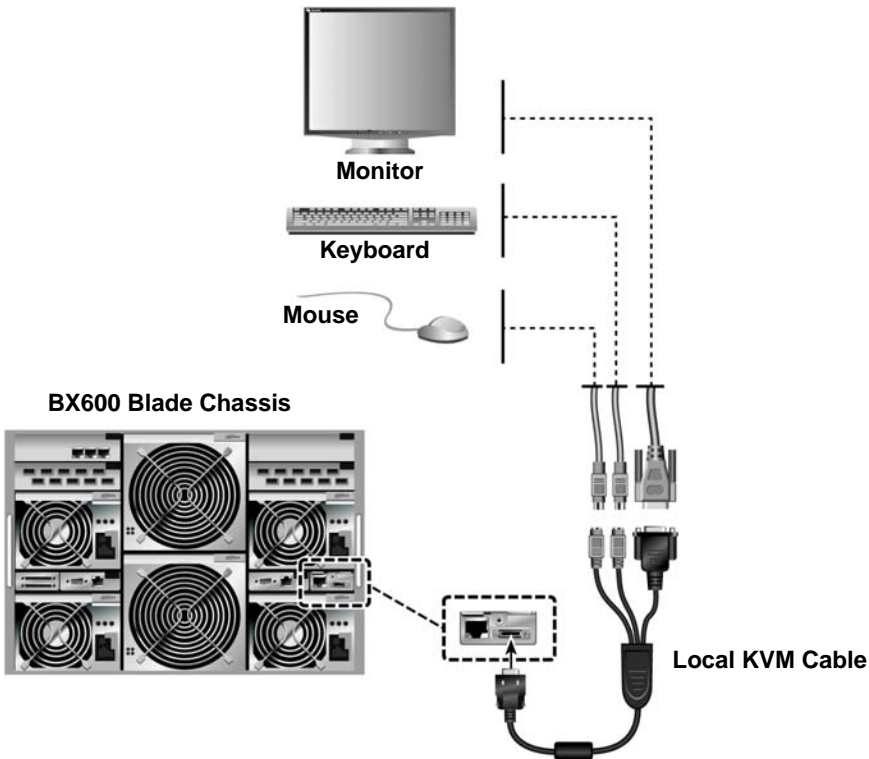


Figure 2: BX600 Digital KVM Switch Basic Configuration

To display the BX600 Digital KVM Switch Main dialog box by slot order:

- ▶ Press Print Screen to launch OSCAR, the BX600 Digital KVM Switch interface.
- ▶ Click **Setup** and then click **Menu**. The Menu dialog box appears.

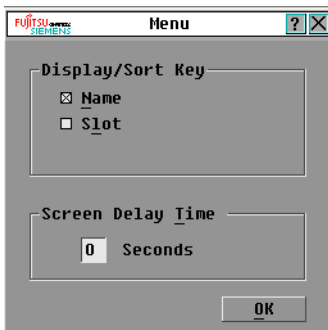


Figure 3: Menu Dialog Box

- ▶ Select **Slot** to display servers by slot number. Type a screen delay time of 1 second.
- ▶ Click **OK**.

2.2 Setting Up a BX600 Digital KVM Switch in Tiers

You can set up your BX600 Digital KVM Switch in tiers from our KVM appliances.

To connect the BX600 Digital KVM Switch to the supported KVM appliance:

NOTE: The supported KVM appliances can be: KVMs1-1602, KVMs2-0801, KVMs2-0411 or KVMs3-1621. Tiering is limited to 2 levels: Level 1 is the BX600 Digital KVM switch. Level 2 is any of the KVM appliances mentioned above.

- ▶ Place the BX600 blade chassis and the KVM appliance in the desired location. Fujitsu Siemens recommends powering off and unplugging both appliances before connecting them.
- ▶ Connect the keyboard, video, and mouse cable to the KVM appliance.
- ▶ Connect the other end of this cable to the Local KVM cable.
- ▶ Connect the Local KVM cable to the KVM port of the BX600 Digital KVM Switch (Figure 4).
- ▶ Connect the power cords for both the KVM appliance and the BX600 blade chassis to the appropriate socket on the back of the appliance.
- ▶ Connect both the KVM appliance and the BX600 blade chassis to an appropriate power supply.
- ▶ Turn the power on for the BX600 blade chassis first; then turn the power on for the KVM appliance.

NOTE: If the KVM appliance is powered on before the BX600 blade chassis, it may result in only 1 blade sever displaying in the KVM appliance interface instead of 10.

NOTE: In addition to the steps outlined above, some KVM appliances may require you to perform additional steps to ensure that the BX600 Digital KVM Switch blade servers appear in the KVM appliance interface. Please read your KVM appliance documentation for additional information.

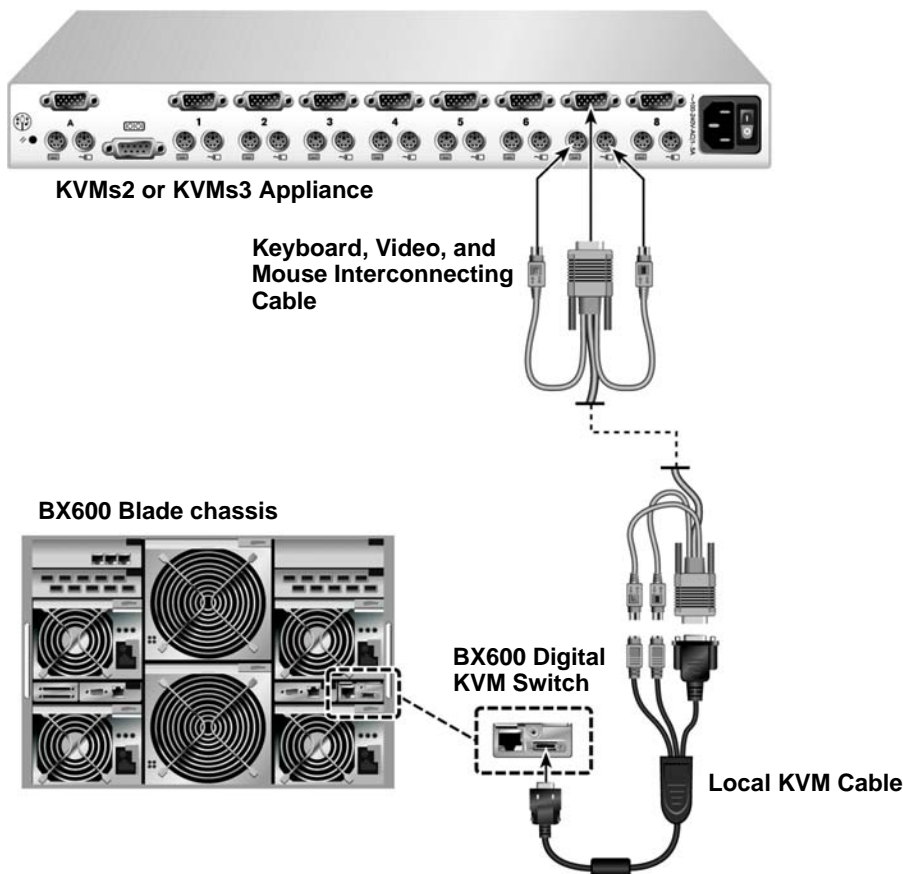


Figure 4: BX600 Digital KVM Switch tiered from a KVMs2-1602 or KVMs2-0801

Before connecting your BX600 Digital KVM Switch to a supported KVM appliance, you must ensure that it has been set to display in slot order and that the Screen Delay Time is set to 1 or more seconds. See “Analog Operation” on page 11. for more information. Once in slot order, it is possible for you also to set a Screen Delay Time that allows you to soft switch to a server without launching OSCAR.

NOTE: Soft switching allows you to switch servers using a hot key sequence. You can soft switch to a server by pressing Print Screen and then typing the first few characters of its name or number. If you have a Delay Time set and you press the key sequences before that time has elapsed, OSCAR will not display, allowing you more agility.

To configure the KVM appliance:

- ▶ Press Print Screen to open the OSCAR Main dialog box.
- ▶ Click **Setup** then click **Devices** and then click **Device Modify**.

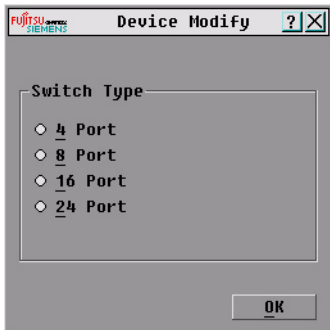


Figure 5: Device Modify Dialog Box

- ▶ Select the 10-port option to match the number of slots in the BX600 blade chassis. If the 10-port option is not available, select the 16-port option.
- ▶ Click **OK** to exit OSCAR.
- ▶ Press Print Screen to verify that the settings have taken effect. The slot number of the blade to which the BX600 Digital KVM Switch is now attached should be expanded to display each of the slot locations of the servers in the BX600 blade chassis. For example, if the BX600 Digital KVM Switch is attached to slot 1, it would now be displayed as 01-01 to 01-10.



Figure 6: Main Dialog Box.

2.2.1 Tiering a BX600 Digital KVM Switch from a KVMs3-1621 or KVMs2-0411 Console Switch

To tier a BX600 Digital KVM Switch from an Fujitsu Siemens s3-1621 Console Switch:

- ▶ Connect one end of a CAT5 cable to an ARI port on the Fujitsu Siemens s3-1621 Console Switch.

- ▶ Connect the other end of the CAT5 cable to a KVM Intelligent Adaptor (KVM-IA).
- ▶ Connect the local KVM cable to the local KVM port of the BX600 Digital KVM Switch and then to the KVM-IA.
- ▶ Once the BX600 Digital KVM Switch is connected, the server blades appear in OSCAR.

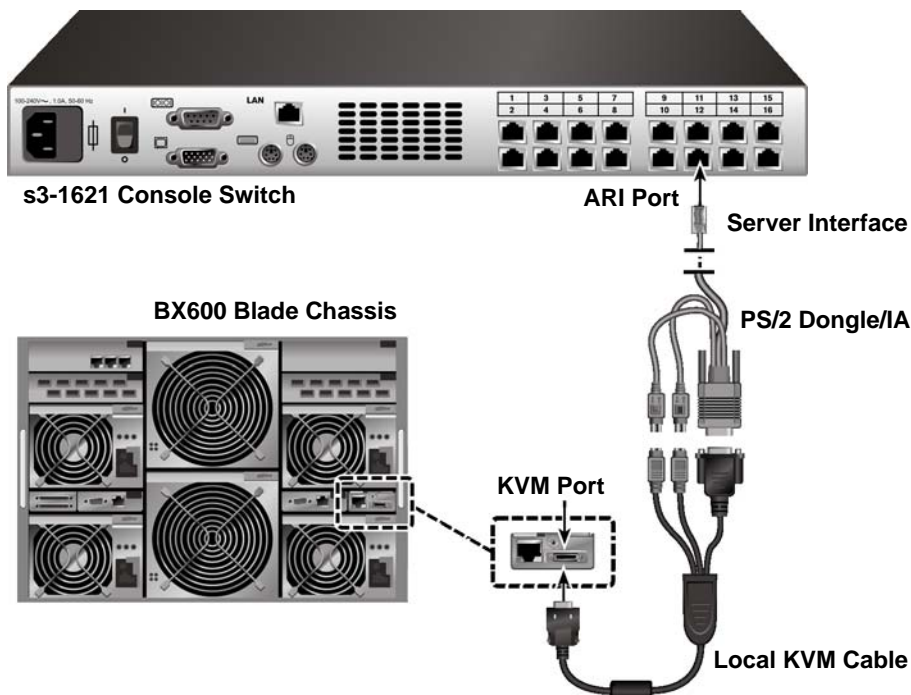


Figure 7: Tiering a BX600 Digital KVM Switch from an s3-1621 Console Switch

Once connected, the s3-1621 Console Switch will automatically configure the slots in the KVM menu. When the local system is set up, you will need to resynchronize the server list in the s3-1621 Console Switch software in order to see the list of BX600 blade chassis server blades. See your s3-1621 Console Switch documentation.

NOTE: With the KVMs3-1621 cascaded above the BX600 Digital KVM switch, you cannot attach virtual media via the KVMs3-1621 to the BX600 server blades.



3 Analog Operation

3.1 Controlling Your System

The BX600 Digital KVM Switch uses the intuitive menus of the OSCAR interface to allow you to select server modules and configure your system.

3.2 Viewing and Selecting Slots and Server Modules

Use the Main dialog box to view, configure, and control server modules connected to the BX600 Digital KVM Switch. You can view your server modules by name or by slot, but by default, you will see a Name list when you first launch OSCAR.

To access the Main dialog box:

- ▶ Press Print Screen to launch OSCAR. The Main dialog box appears.
-or-
If a password has been assigned, the Password dialog box appears. Type your password and click **OK**.
- ▶ The Main dialog box appears. For more information, see “Setting Console Security” on page 18.

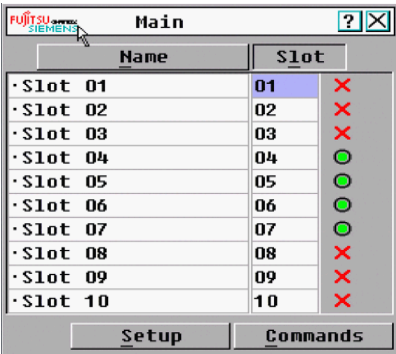


Figure 8: Example of Configured Main Dialog Box

NOTE: To launch OSCAR, you can also press the Ctrl key twice within one second. You can use this key sequence in any place you see Print Screen throughout this User's Guide.

OSCAR indicates the status of server modules in your system in the far right column of the Main dialog box. Table 1 describes the status symbols.





Symbol	Description
	Server Module is online
	PS/2 subsystem firmware is upgrading
	Server Module is offline or is not operating properly
	User connection

Table 1: OSCAR Status Symbols

3.2.0.1 Selecting Server Modules

When you select a Server Module, the BX600 Digital KVM Switch reconfigures the keyboard and mouse to the proper settings for that Server Module.

To select server modules:

- ▶ Double-click the Server Module name or slot number.
-or-
If the display order of your Server Module list is by slot (Slot is depressed), type the slot number and press Enter.
-or-
If the display order of your Server Module list is by name (Name is depressed), type the first few letters of the name of the Server Module to establish it as unique, and press Enter twice.

To select the previous Server Module:

- ▶ Press Print Screen and then Backspace. This key combination toggles you between the previous and current connections.

To disconnect the analog user from a Server Module:

- ▶ Press Print Screen and then Alt + Ø. This leaves you in a free state, with no Server Module selected. The status flag on your desktop, if active, displays Free.

3.2.0.2 Soft Switching

Soft switching is the ability to switch server modules using a hot key sequence. You can soft switch to a Server Module by pressing Print Screen and then typing the first few characters of its name or number. If you have a Delay Time set and you press the key sequences before that time has elapsed, OSCAR will not display.

To configure OSCAR for soft switching:

- ▶ Press Print Screen to launch OSCAR. The Main dialog box appears.

- ▶ Click **Setup** and then click **Menu**. The Menu dialog box appears.
- ▶ Select **Name** or **Slot** for the Display/Sort Key.
- ▶ For Delay Time, type the number of seconds of delay desired before the Main dialog box is displayed after Print Screen is pressed.
- ▶ Click **OK**.

To soft switch to a Server Module:

- ▶ To select a Server Module, press Print Screen. If the display order of your Server Module list is by slot as chosen above in step 3 (Slot is depressed), type the slot number and press Enter.
-or-
If the display order of your Server Module list is by name as chosen above in step 3 (Name is depressed), type the first few characters of the name of the Server Module to establish it as unique and press Enter.
- ▶ To switch back to the previous Server Module, press Print Screen then Backspace.

3.3 OSCAR Navigation Basics

Table 2 describes how to use the keyboard and mouse to navigate OSCAR.

Keystroke	Result
<u>Print Screen</u> or <u>Ctrl</u>	Opens OSCAR. Press <u>Print Screen</u> twice (or <u>Ctrl</u> twice) to open OSCAR on the currently selected device.
<u>F1</u>	Opens the Help screen for the current dialog box.
<u>Escape</u>	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes OSCAR and returns to the selected Server Module. In a message box, it closes the pop-up box and returns to the current dialog box.
<u>Alt</u>	Opens dialog boxes, selects or checks options and executes actions when used in combination with underlined letters or other designated characters.
<u>Alt+X</u>	Closes current dialog box and returns to the previous one.
<u>Alt+O</u>	Clicks OK , then returns to the previous dialog box.
<u>Enter</u>	Completes the switch operation in the Main dialog box and exits OSCAR.

Table 2: Keyboard and Mouse Navigation

Keystroke	Result
Single-click <u>Enter</u>	In a text box, it selects the text for editing and enables the left-arrow and right-arrow keys to move the cursor. Press <u>Enter</u> again to quit the edit mode.
<u>Print Screen</u> , <u>Backspace</u>	Toggles back to previous selection if no other keystrokes have been typed.
<u>Print Screen</u> , <u>Alt+Ø</u>	Immediately disconnects the analog user from a Server Module; no Server Module is selected. Status flag displays Free. (This only applies to the <u>Ø</u> on the keyboard and not the keypad.)
<u>Print Screen</u> , <u>Pause</u>	Immediately turns on screen saver mode and prevents access to that particular console, if it is password protected.
<u>Up/Down Arrows</u>	Moves the cursor from line to line in lists.
<u>Right/Left Arrows</u>	When editing a text box, these keys move the cursor within the column.
<u>Home/End</u>	Moves the cursor to the top or bottom of a list.
<u>Backspace</u>	Erases characters in a text box.
<u>Delete</u>	Deletes characters in a text box.
<u>Numbers</u>	Type from the keyboard or keypad.
<u>Caps Lock</u>	Disabled. Use the <u>Shift</u> key to change case.

Table 2: Keyboard and Mouse Navigation (Continued)

3.4 Configuring OSCAR

You can configure your BX600 Digital KVM Switch from the Setup menu within OSCAR. Click Names when initially setting up your BX600 Digital KVM Switch system to identify server modules by unique names. Select the other setup features to manage routine tasks for your server modules from the OSCAR menu.

To access the Setup menu:

- ▶ Press Print Screen to launch OSCAR. The Main dialog box appears.
- ▶ Click **Setup**. The Setup dialog box appears.

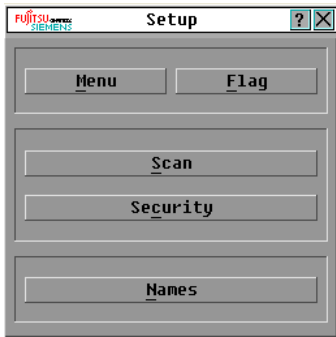


Figure 9: Setup Dialog Box

3.4.1 Assigning Server Module Names

Use the Names dialog box to identify server modules by name rather than by slot number. The Names list is always sorted by slot order.

To access the Names dialog box:

- ▶ Press **Print Screen**. The Main dialog box will appear.
- ▶ Click **Setup** and then click **Names**. The Names dialog box appears.

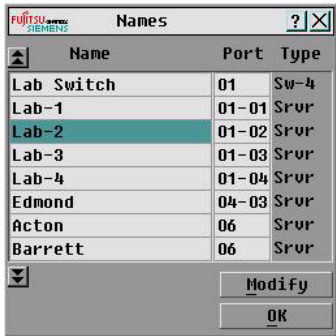


Figure 10: Names Dialog Box

NOTE: If the BX600 Digital KVM Switch System discovers new server modules, the on-screen list will automatically update. The mouse cursor will change into an hourglass during the update and the system will not accept mouse or keyboard input.

NOTE: The BX600 Digital KVM Switch stores the Server Module names. If you move a Server Module to a new slot or chassis, the name will not move with it, so the module must be reassigned a name in the new location.

To assign names to server modules:

- ▶ In the Names dialog box, select the name or slot number you wish to change and click **Modify**. The Name Modify dialog box appears.



Figure 11: Name Modify Dialog Box

- ▶ Type a name in the **New Name** field. Names of server modules may be up to 15 characters long. Allowable characters include: A-Z, a-z, Ø-9, space and hyphen.
 - ▶ Click **OK** to transfer the new name to the Names dialog box. Your selection is not saved until you click OK in the Names dialog box.
 - ▶ Repeat steps 1-3 for each Server Module in the system.
 - ▶ Click **OK** in the Names dialog box to save your changes.
- or-
- Click **X** or press Escape to exit the dialog box without saving changes.

3.4.2 Changing the Display Behavior

Use the Menu dialog box to change the display order of server modules and set a screen delay time for OSCAR.

To access the Menu dialog box:

- ▶ Press Print Screen to launch OSCAR. The Main dialog box appears.
- ▶ Click **Setup** and then click **Menu**. The Menu dialog box appears.

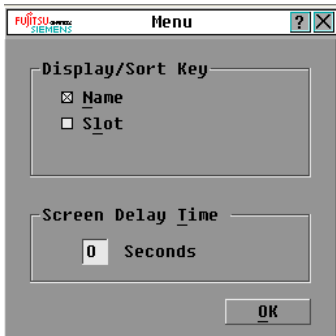


Figure 12: Menu Dialog Box

To choose the display order of server modules in the Main dialog box:

- ▶ Select **Name** to display server modules alphabetically by name.

-or-

Select **Slot** to display server modules numerically by slot number.

- ▶ Click **OK**.

To set a screen delay time for OSCAR:

- ▶ Type in the number of seconds (0-9) you want to delay display of OSCAR after you press Print Screen. Entering 0 will instantly launch OSCAR with no delay.
- ▶ Click **OK**.

Setting a time to delay display of OSCAR allows you to complete a soft switch without OSCAR displaying. To perform a soft switch, see “Soft Switching” on page 12.

3.4.3 Controlling the Status Flag

The status flag displays on your desktop and shows the name of the selected Server Module or the status of a slot. Use the Flag dialog box to configure the flag to display by Server Module name, or to change the flag color, opacity, display time, and location on the desktop.



Flag	Description
	Flag type by name.
	Flag indicating that the user has been disconnected from all systems.

Table 3: OSCAR Status Flags

To access the Flag dialog box:

- ▶ Press Print Screen. The Main dialog box will appear.
- ▶ Click **Setup** and then click **Flag**. The Flag dialog box appears.

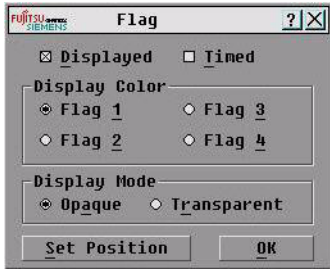


Figure 13: Flag Dialog Box

To determine how the status flag is displayed:

- ▶ Select **Displayed** to show the flag all the time or select **Displayed** and **Timed** to display the flag for only five seconds after switching.

NOTE: If only Timed is selected the flag will not be displayed at all.

- ▶ Select a flag color in Display Color. The flag numbers represent Flag 1, black; Flag 2, red, Flag 3, blue; and 4, purple.
- ▶ In Display mode, select **Opaque** for a solid color flag or select Transparent to see the desktop through the flag.
- ▶ To position the status flag on the desktop:
 - a. Click **Set Position** to gain access to the Position Flag screen.
 - b. Left-click on the title bar and drag to the desired location.
 - c. Right-click to return to the Flag dialog box.

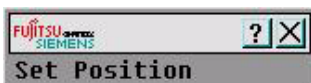


Figure 14: Position Flag

NOTE: Changes made to the flag position are not saved until you click OK in the Flag dialog box.

- ▶ Click **OK** to save settings.
- or-
- Click **X** to exit without saving changes.

3.4.4 Setting Console Security

OSCAR enables you to set security on your BX600 Digital KVM Switch console. You can establish a screen saver mode that engages after your console remains unused for a specified delay time. Once engaged, your console will remain locked until you press any key or move the mouse. You will then need to type in your password to continue.

Use the Security dialog box to lock your console with password protection, set or change your password, and enable the screen saver.

To access the Security dialog box:

- ▶ Press Print Screen. The Main dialog box will appear.
- ▶ Click **Setup** and then click **Security**. The Security dialog box appears.

NOTE: If a password has been previously set, the user will have to enter the password before being able to access the Security dialog box.



Figure 15: Security Dialog Box

To set or change the password:

CAUTION: There is no master password. The BX600 appliance must be sent to Fujitsu Siemens in the case of a lost password.

- ▶ Single-click and press Enter or double-click in the New text box.
- ▶ Type the new password in the New text box and press Enter. Passwords require 5 to 12 characters and must include at least one letter and one number. Passwords are also case sensitive. Legal characters are: A-Z, a-z, and 0-9.

NOTE: You can leave the New text box and the Repeat text box empty, if you do not want a password. (See "To remove password protection from your console:" on page 20.)

- ▶ In the Repeat box, type the password again and press Enter.
- ▶ Click **OK** if you only want to change your password, and then close the dialog box.

To password protect your console:

- ▶ Set your password as described in the previous procedure.
- ▶ Select **Enable Screen Saver**.
- ▶ Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of password protection and the screen saver feature.
- ▶ For Mode, select **Energy** if your monitor is ENERGY STAR™ compliant; otherwise select **Screen**.

CAUTION: Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGY STAR™.

- ▶ (Optional) Click **Test** to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
- ▶ Click **OK**.

To log in to your console:

- ▶ Press Print Screen to launch OSCAR. The Password dialog box appears.
- ▶ Type your password and then click **OK**.
- ▶ The Main dialog box appears if the password was entered properly.


To automatically log out of a Server Module when inactive:

- ▶ In the Main dialog box, click **Setup** and then click **Security**. If you have password protection, the Password dialog box appears.
- ▶ Type your password, and then click **OK**. The Security dialog box appears.
- ▶ In the **Inactivity Time** field, enter the length of time you want to stay connected to a Server Module before it automatically disengages you.
- ▶ Click **OK**.


To remove password protection from your console:

- ▶ In the Main dialog box, click **Setup** and then click **Security**. The Password dialog box appears.
- ▶ Type your password, and then click **OK**.
- ▶ In the Security dialog box, single-click and press Enter or double-click in the **New** field. Leave the box blank. Press Enter.
- ▶ Single-click and press Enter or double-click in the Repeat box. Leave the field blank. Press Enter.
- ▶ Click **OK** if you only want to eliminate your password.

To enable the screen saver mode with no password protection:

 **CAUTION:** There is no master password. The BX600 appliance must be sent to Fujitsu Siemens in the case of a lost password.

- ▶ If your console does not require a password to gain access to the Security dialog box, continue to the next step.
- or -
- If your console is password protected, see the previous procedure, *To remove password protection from your console*:
- ▶ Select **Enable Screen Saver**.
- ▶ Type the number of minutes for delay time (from 1 to 99) that you want to delay activation of the screen saver.
- ▶ Choose **Energy** if your monitor is ENERGY STAR™ compliant; otherwise select Screen.

 **CAUTION:** Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGY STAR™.

- ▶ (Optional) Click **Test** to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
- ▶ Click **OK**.

NOTE: Activation of the screen saver mode disconnects the user from a Server Module; no Server Module is selected. The status flag displays Free.

To exit the screen saver mode:

Press any key or move your mouse. The Main dialog box appears.

To turn off the screen saver:

- ▶ In the Security dialog box, clear **Enable Screen Saver**.
- ▶ Click **OK**.

To immediately turn on the screen saver:

- ▶ Press Print Screen, then press Pause.

NOTE: Enable Screen Saver must be selected in the Security dialog box.

3.5 Displaying Version Information

Use the Version dialog box to display the BX600 Digital KVM Switch firmware, hardware and FPGA versions, and to identify the language and keyboard configuration. For optimum performance, keep your firmware current. For more information on updates, see “OSCAR Refresh Rates” on page 40.

To display version information:

- ▶ Press Print Screen. The Main dialog box will appear.
- ▶ Click **Commands** and then click **Display Versions**. The Version dialog box appears. The top half of the box lists the subsystem versions in the BX600 Digital KVM Switch.

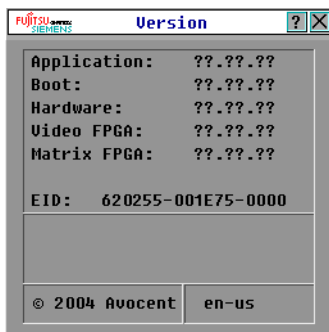


Figure 16: Version Dialog Box

- ▶ Click **X** or press Escape to close the Version dialog box.

3.6 Scanning Your System

In scan mode, the BX600 Digital KVM Switch automatically scans from slot to slot (Server Module to Server Module). You can scan up to 10 server modules by specifying which server modules you want to scan and the number of seconds that each Server Module will display.

To add server modules to the Scan list:

- ▶ If OSCAR is not open, press Print Screen. The Main dialog box will appear.
- ▶ Click **Setup** and then click **Scan**. The Scan dialog box appears.



Figure 17: Scan Dialog Box

- ▶ The dialog box contains a listing of all the server modules attached to your unit. Click to enable the check box next to the server modules you wish to scan.
- or-
- Double-click on a Server Module's name or slot.
- or-
- Press Alt+ the number of the Server Module you wish to scan. You can select up to 10 server modules.
- ▶ In the **Scan Time** field, type the number of seconds (from 3 to 99) of desired time before the scan moves to the next Server Module in the sequence.
- ▶ Click **OK**.

To remove a Server Module from the Scan list:

- ▶ In the Scan dialog box, click to disable the check box next to a Server Module to be removed.
- or-
- Double-click on a Server Module's name or slot.
- or-
- Click **Clear** to remove all server modules from the Scan list
- ▶ Click **OK**.

To start the scan mode:

- ▶ Press Print Screen. The Main dialog box will appear.
- ▶ Click **Commands**. The Command dialog box appears.

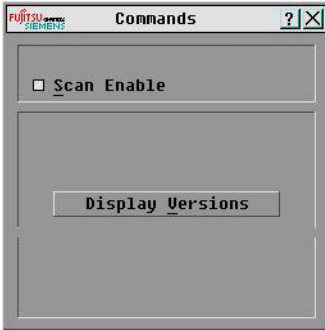


Figure 18: Command Dialog Box

- ▶ 3 Select **Scan Enable** in the Command dialog box.

To cancel scan mode:

- ▶ Select a Server Module if OSCAR is open.
-or-
Move the mouse or press any key on the keyboard if OSCAR is not open. Scanning will stop at the currently selected Server Module.
-or-
Press Print Screen. The Main dialog box will appear.
- ▶ Click **Commands**. The Command dialog box appears.
- ▶ Clear **Scan Enable**.



4 Digital Operation

The BX600 Digital KVM Switch allows you to manage both blade servers and virtual media from a remote location. Using the Video Viewer, you can view and manage any of ten blade servers remotely in exactly the same way that you would if you were sitting in front of them. Using the Virtual Media dialog box, you can manage virtual media sessions allowing you to remotely perform server backups, recovery operations, and operating system installation to name a few examples. For each of these operations, you go through the Fujitsu Siemens Management Blade (MMB).

Your client machine must meet minimum requirements to access the MMB, the video viewer or manipulate virtual media (See Appendix B).

4.1 Accessing the BX600 Digital KVM Switch through the Fujitsu Siemens Management Blade (MMB)

Point your browser to the IP address of the MMB to access the BX600 Digital KVM Switch. You may then access the video viewer and manipulate virtual media.

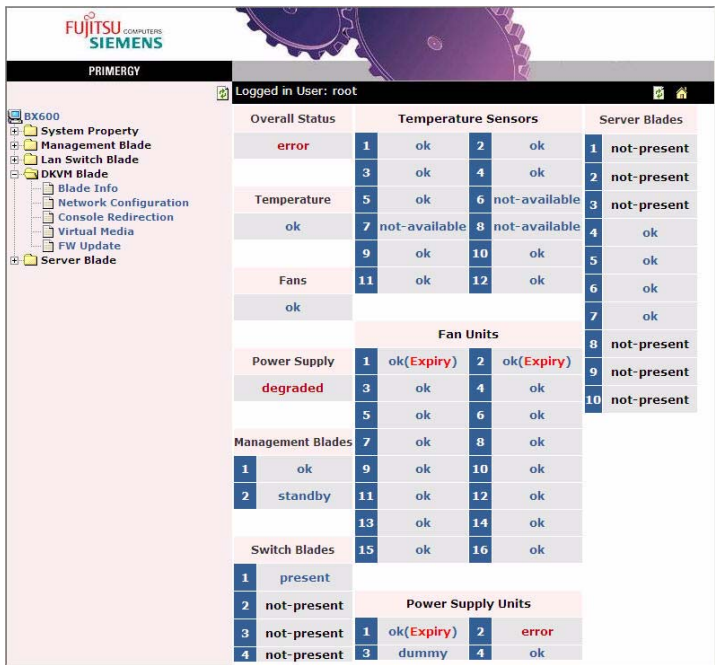


Figure 19: Fujitsu Siemens Management Blade (MMB) Home Page

To access the Video Viewer application:

- ▶ From your browser, type in the correct URL to bring up the MMB interface.

- ▶ Click on the plus sign (+) next to the **DKVM** folder in the left column to display the folder's contents.
- ▶ On the left side, select **Console Redirection**.
- ▶ On the right side, select the Server Blade from the drop-down list.
- ▶ Click on **Launch**.

4.2 Using the Video Viewer

Once you have selected Console in the MMB menu, you may select the server you would like to interact with.

To access a server:

- ▶ Click the **Servers** button in the list of servers.
- ▶ Click the **Select Server** button. The Launch Application button will become active.
- ▶ Click the **Launch Application** button. The server's desktop will appear.

4.2.1 Interacting With the Server Being Viewed

Once you have connected to a server, you will see the desktop window of the server on your screen. This opens in a separate window. You will see two cursors: the local cursor and the server's cursor. You may need to align these if they do not move together or adjust the video if they seem to jump about. From this window, you will be able to access all the normal functions of this server as if you were sitting right in front of it. You may also perform Viewer-specific tasks such as sending special Macro commands to the server.

4.2.2 Viewer Window Features

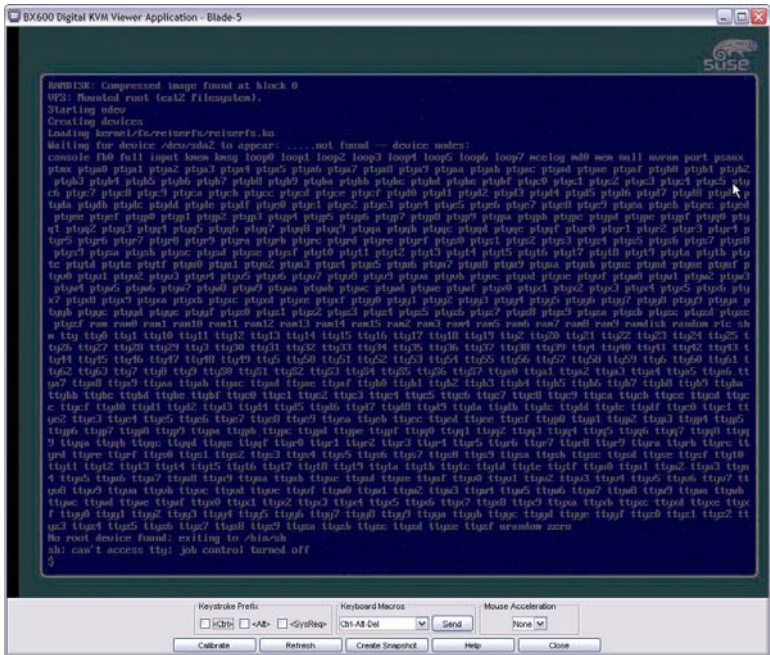


Figure 20: Video Viewer Application

4.2.3 Expanding and Refreshing Your Viewer

You can adjust your view of the remote system’s monitor using the buttons at the bottom of the Viewer window. The buttons allow you to set video adjustments, refresh the screen, capture screen images, get help and close the Video Viewer application. There are also some check boxes and drop-down lists that let you pass special keystrokes to the remote system without affecting your local workstation.

To set video adjustments:

- ▶ Click **Calibrate** on the viewer toolbar.

This automatically calibrates and sets the video adjustments. You also have the option to launch a manual video adjustment dialog box. See “Manual Video Adjust Dialog Box Options” on page 29.

To refresh the screen image in the Video Viewer:

- ▶ Click **Refresh** on the viewer toolbar.

To capture a screen image from the Video Viewer:

- ▶ Click **Create Snapshot** on the viewer toolbar.

To get help:

- ▶ Click **Help** on the viewer toolbar.

To close the Video Viewer application:

- ▶ Click **Close** on the viewer toolbar.

4.2.4 Adjusting the Viewer Window

- ▶ You can adjust both the size and quality of the server's Viewer. You can also expand your Viewer to fit the entire screen or refresh the view at any time.

4.2.5 Adjusting Keyboard Macros

- ▶ Allows you to select and type a number of keystroke combinations that cannot be typed using your local keyboard without affecting your local system.

To use any one of the keystroke combinations listed:

- ▶ From the Keystroke Macros list, select the macro you want to send.
- ▶ Click **Send**. The keystroke macro is sent to the remote system.

4.2.6 Setting a Keystroke Prefix

- ▶ Click to enable one or more of the Keystroke Prefix check boxes to enable you to select a key or key combination that acts as a previous keystroke to your actual keystrokes.

4.2.7 Adjusting Mouse Acceleration

The Mouse Acceleration list allows you to select the operating system you want to view. Select the appropriate operating system to optimize console redirection mouse performance. You can select **None** for Windows and most other operating systems and **Linux** for the Linux operating system.

4.2.8 Adjusting the Video Quality

The Viewer offers both automatic and manual video adjustment capability. Generally, the Automatic Video Adjustment will optimize the video for the best possible view. However, you may wish to alter the video for your specific needs. Use the slider bar for fine adjustments, and the Plus (+) and Minus (-) buttons for small, incremental adjustments.

NOTE: Only 7-bit color is supported.

4.2.9 Manual Video Adjust Dialog Box Options

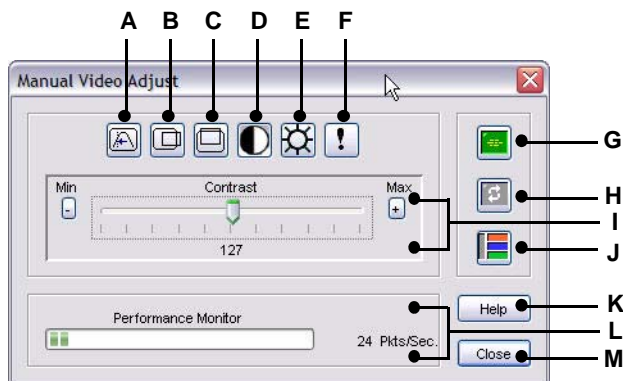


Figure 21: Manual Video Adjust Dialog Box

- A** Pixel Sampling Fine Adjustment
- B** Image Capture Horizontal Position
- C** Image Capture Vertical Position
- D** Contrast
- E** Brightness
- F** Pixel Noise Threshold
- G** Automatic Video Adjustment
- H** Refresh Image
- I** Scroll Bar (for active button)
- J** Three Color Video Test Pattern
- K** Help Button
- L** Performance Monitor
- M** Close Button

To manually adjust the video quality of the Viewer window:

- ▶ In the Viewer, click **Calibrate**. The Auto Video Adjust dialog box appears.
- ▶ Click the **Manual Video Adjust** button.
- ▶ Click the icon for the feature you wish to adjust.
- ▶ Move the slider bar or click Minus (-) or Plus (+) to adjust the parameter one unit at a time for each icon pressed. The adjustments will display immediately in the Viewer window.
- ▶ When finished, click **Close** to exit the Manual Video Adjust dialog box.

4.2.10 Minimizing Remote Video Session Discoloration

When establishing remote video sessions, pixel discolorations may occur due to network conditions. This condition occurs most often with a solid color background. This

condition is minimized by using a black background. If a color background is used, a small number of pixels on the screen will be discolored or white.

To minimize remote video pixel discoloration:

- ▶ In the Viewer, click **Calibrate**. The Auto Video Adjust dialog box appears.
- ▶ Click the **Manual Video Adjust** button.
- ▶ Choose contrast or brightness.
- ▶ Adjust the contrast and brightness until the image quality improves.
- ▶ A noise threshold setting is also available and then **Manual Video Adjust** for fine incremental adjustments.

NOTE: Reducing the noise threshold to zero causes constant video refresh, high network usage and a flickering video. Fujitsu Siemens recommends that the noise threshold be set to the highest level that allows efficient system performance, while still being able to recover pixel colors over which the mouse cursor travels.

NOTE: When adjusting the noise threshold, use the slider bar for large adjustments and Plus (+) and Minus (-) at the ends of the slider bar for fine-tuning.

4.2.11 Improving Screen Background Color Display

You may experience inconsistent color display when viewing target servers where photographic images or color-intense gradient backgrounds have been selected. We recommend that you select a solid color display background via the operating system for optimal display quality and performance.

- ▶ Use the Plus (+) and Minus (-) buttons at the end of the slider bar to fine-adjust the noise threshold to just above zero.

NOTE: Leaving the noise threshold at zero triggers constant video refresh, resulting in high network usage and a flickering video. It is recommended that the noise threshold be set at the highest level that allows efficient system performance, while still being able to recover pixel colors that the mouse cursor travels over.

NOTE: When adjusting the noise threshold, the slider bar can be used for large or very fine adjustments and the Plus (+) and Minus (-) buttons at either end of the slider bar for small, incremental adjustments.

4.2.12 Improving Mouse Performance

If you are experiencing slow mouse response during a remote video session, you may want to deactivate the mouse acceleration in the operating system of the target server.

Microsoft Windows XP Default Mouse Drivers:

- ▶ Select **Start** then select **Settings** and then select **Control Panel**.
- ▶ Double-click the Mouse icon.
- ▶ Click on the **Motion** tab.
- ▶ Adjust mouse speed to the exact midpoint of the slider bar.
- ▶ In the Acceleration setting, select the **Off** radio button.
- ▶ Click **OK**. Click Mouse Synchronize/Screen Refresh in Video Session Viewer to resynchronize the mouse.

Intellipoint Drivers (Only for Windows based Operating Systems):

- ▶ Select **Start** then select **Settings** and then select **Control Panel**.
- ▶ Double-click the Mouse icon.
- ▶ Cycle through the tabs until the pointer speed slider is displayed.
- ▶ Adjust the mouse speed to the exact midpoint of the slider bar.
- ▶ Click **Advanced**.
- ▶ Click the **Acceleration** check box to turn off acceleration.
- ▶ Click **OK**. Click **Mouse Synchronize/Screen Refresh** in Video Session Viewer to resynchronize the mouse.

Red Hat Linux:

- ▶ Select the **Mouse** settings from the Desktop Controls.
- ▶ Set Acceleration to 1.0.
- ▶ Apply the changes and click **Mouse Synchronize/Screen Refresh** in Video Session Viewer to resynchronize the mouse.

Any Linux Distribution:

- ▶ Open a Console window in the Desktop.
- ▶ Enter the following command:

```
xset m 0
```

NOTE: On some Linux distributions, this procedure needs to be performed each time you log onto the Desktop.

4.2.13 Create Snapshot Images

The **Create Snapshot** button captures the current remote system screen to a .jpg file on the local system. A dialog box is displayed that allows you to save the .jpg file to a specified location.

4.3 Virtual Media

4.3.1 Virtual Media Dialog Box

The Virtual Media dialog box allows you to map a single generic mass storage device (or floppy image) and a single CD/DVD device (or CD/DVD image) to a target server. Once you have selected Virtual in the MMB menu, you may select the server you would like to interact with.

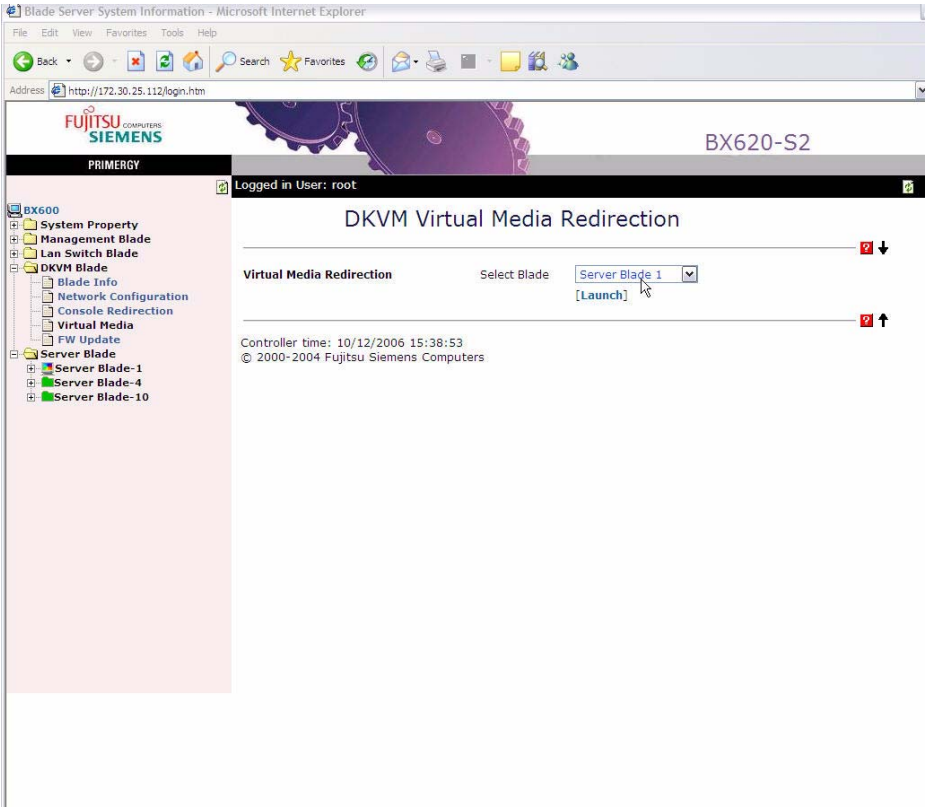


Figure 22: Virtual Media page of the MMB menu

To access a server:

- ▶ Click the **Select Device** drop-down list in the list of servers.
- ▶ Select the server on which you want to attach your virtual media. The launch button will become active.
- ▶ Click the **Launch** button. The Virtual Media dialog box will appear. It will be associated with the server you chose from the drop-down list.

4.3.1.1 Mapping a Generic Mass Storage Device

The Generic Mass Storage Devices or Filesystems panel allows you to select a floppy drive from a list of all client floppy drives and removable USB drives. You can also select the Floppy Image option that allows you to browse to the location of your chosen floppy image file. If you do not want to select either of these options you can select the No Floppy option.

NOTE: Only one Generic Mass Storage Devices or Filesystems option can be selected at any one time. The selected generic mass storage device is not mapped until you click Apply.

4.3.1.2 Mapping a CD/DVD Device

The CD/DVD Devices or Filesystem panel allows you to select a CD/DVD device from the attached CD/DVD drives. You can also select the ISO Image option to select a single CD/DVD image file. If you do not want to select either of these options you can select the No CD/DVD option.

NOTE: Only one CD/DVD Devices or Filesystem option can be selected at any one time. The selected generic mass storage device is not mapped until you click Apply.

4.3.1.3 Viewing the Mapped Device Status

The Currently Mapped Drives panel lists the generic mass storage device and CD/DVD device that are currently mapped. For each mapped device, the target drive, where the target drive is mapped and the number of bytes read (for that device) are displayed. Click Details to display or hide this panel.

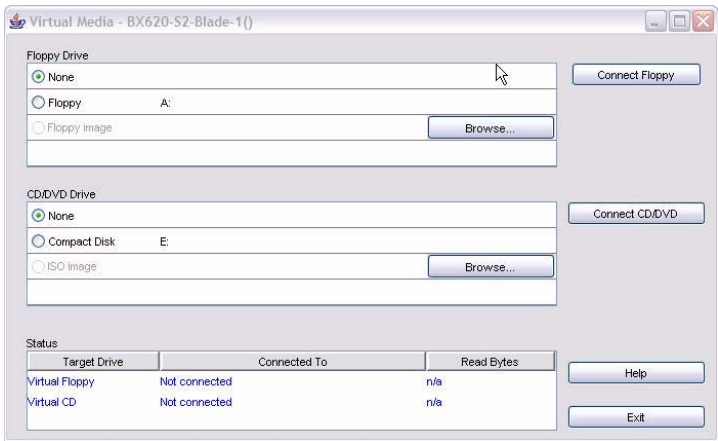


Figure 23: Virtual Media Dialog Box



5 BX600 Graphical User Interface

The Fujitsu Siemens BX600 Digital KVM Switch allows you to access the blades in a BX600 Blade Server using a Graphical User Interface (GUI).

To access the Fujitsu Siemens Management Blade (MMB) GUI:

- ▶ Point your browser to the IP address of the MMB to access the BX600 Digital KVM Switch.

When the Fujitsu Siemens Management Blade GUI is called up, the first screen that appears has a list of folders in the left hand column that consist of the following:

- System Property
- Management Blade
- Lan Switch Blade
- DKVM Blade
- Server Blade

5.1 DKVM Blade Folder Contents

The scope of this chapter will discuss the DKVM Blade folder, its contents and how to perform the various tasks.

To access the DKVM Blade folder pages:

- ▶ Click the plus sign (+) next to the DCVM folder icon in the left column of the GUI screen.

The DKVM Blade folder contains the following pages:

- Blade Info
- Network Configuration
- Console Redirection
- Virtual Media
- Firmware Update

5.2 Blade Info

Blade Info is a page in the folder that displays the information about the BX600 Digital KVM switch that is installed in the BX600 blade server.

To access the Blade Info page:

- ▶ Select **Blade Info** from inside the **DKVM Blade** folder in the left column.

When this page is selected, the BX600 reads the blade information from the BX600 Digital KVM switch. This page shows the following items:

- DKVM blade Manufacture
- DKVM blade Manufacture Date
- DKVM blade Serial Number
- DKVM blade Product Name
- DKVM blade Model Name

- DKVM blade Hardware Version

5.3 Network Configuration

In order for you to have GUI access to the BX600 Digital KVM switch, you must assign a valid IP address to it.

NOTE: If your local area network is configured for DHCP, you should check the **DHCP** check box and you can skip the first three steps of the following task.

To configure the BX600 Digital KVM switch with an IP address:

- ▶ Select **Network Configuration** from inside the **DKVM Blade** folder in the left column.
- ▶ Assign an IP address to the BX600 Digital KVM switch by filling in the boxes in the **KVM IP Address** field.

NOTE: The IP address of the BX600 Digital KVM switch must be in the same subnet as the Fujitsu Siemens BX600 Management Blade Module.

- ▶ Enter the default gateway address by filling in the boxes in the **Default Gateway** field.
- ▶ Enter the network mask by filling in the boxes in the **Network Mask** field.
- ▶ If necessary, enter a port address in the **Keyboard/Mouse Port** field. In most cases, you can leave this setting at the default value.
- ▶ If necessary, enter a port address in the **Virtual Media Port** field. In most cases you may leave this setting at the default value.
- ▶ If necessary, enter a port address in the Video Port field. In most cases you may leave this setting at the default value.
- ▶ Click on **Apply Changes**.

A typical network configuration page is shown in the following illustration.

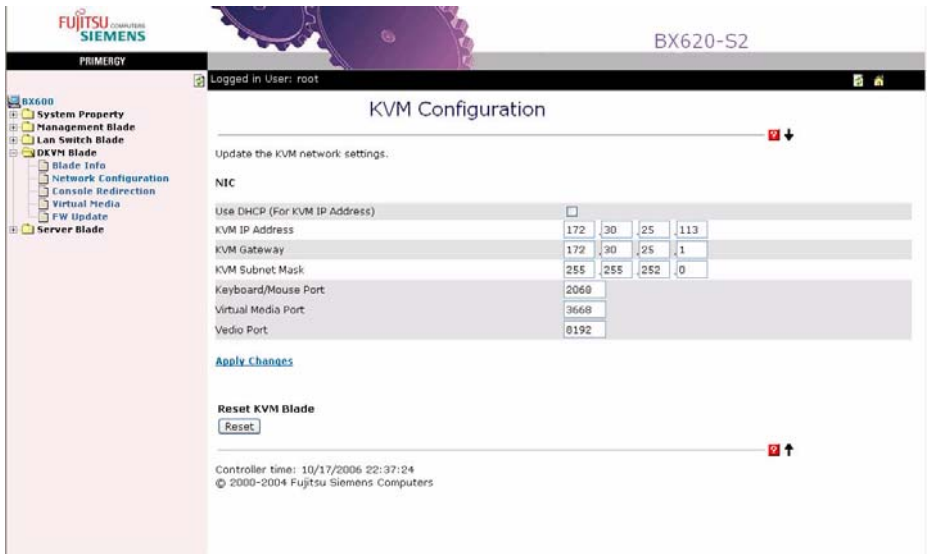


Figure 24: DKVM Network Configuration Page of the MMB Menu

5.4 Console Redirection

The Console Redirection page is the page that you use to launch the Video Viewer application.

To redirect the console to a Video Viewer of your selected blade server:

- ▶ Select **Console Redirection** from inside the **DKVM Blade** folder in the left column.
- ▶ Select a blade server from the drop-down list in the screen that appears.
- ▶ Click on **Launch**.

The Console Redirection page is shown in the following illustration.



Figure 25: Console Redirection Page of the MMB Menu

For details on using the Video Viewer, see “Using the Video Viewer” on page 26.

5.5 Virtual Media

The BX600 Digital KVM switch allows you to use media on your local workstation as if it were installed on the remote blade server. This feature is known as virtual media.

To launch the Virtual Media Dialog Box:

- ▶ Select **Virtual Media** from inside the **DKVM Blade** folder in the left column.
- ▶ Select a blade server from the drop-down list in the screen that appears.
- ▶ Click on **Launch**.

For details on using Virtual Media, see “Virtual Media” on page 31.

5.6 FW Update

You can update the firmware on the BX600 Digital KVM switch from the MMB.

To update BX600 Digital KVM firmware:

- ▶ Select **Firmware Update** from inside the **DKVM Blade** folder in the left column.
- ▶ Enter the file name in the **Image Name** field that appears in the right portion of the MMB page.
- ▶ Enter the IP address of the TFTP server where the firmware resides by filling in the boxes in the **TFTP Server IP** field.
- ▶ Click on **Update Firmware**.
- ▶ Optionally, you may click on **Firmware Update Status** to see how the firmware update is progressing.



CAUTION: Never interrupt a firmware update in progress. It can make your BX600 Digital KVM switch inoperable, and it will be necessary to return it to Fujitsu Siemens for a firmware reinstallation.

The Firmware Update page is shown in the following illustration.

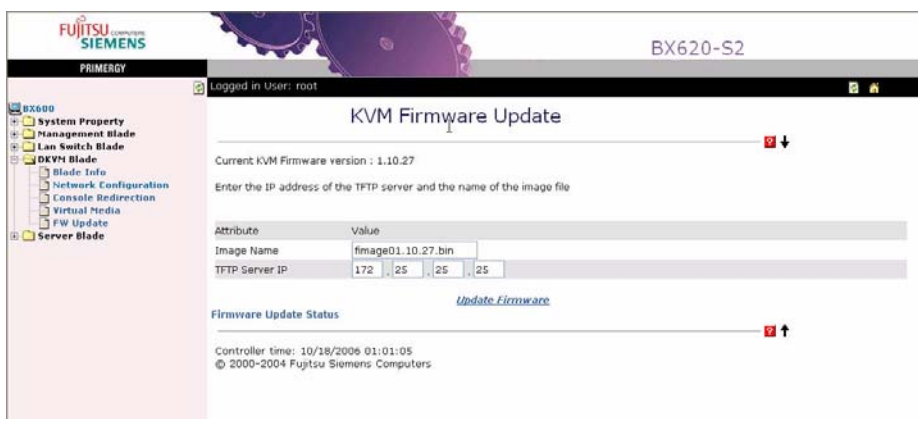


Figure 26: Firmware Update Page of the MMB Menu

6 Appendices

6.1 Technical Publications

Server Module Slots	
Number	10
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum 1600x1200@75Hz.
Ethernet Port	
Number	1
Connectors	RJ45
Analog Port	
Number	1
Type	PS/2 and VGA
Connectors	PS/2 MiniDIN, 15 Pin D

Table 1: Technical Specifications

6.2 Minimum Requirements for Video Viewer and Virtual Media Interface

Successful operation of the video viewer and the remote client for virtual media requires the following minimum configuration on the client machine:

- 650 MHz Pentium or equivalent processor
- 128 MB of RAM
- 10 or 100BaseT NIC (100 recommended)
- xga video with graphics accelerator
- Desktop size setting of at least 800x600
- Color palette of at least 256 colors
- One of the following operating systems:
 - Windows XP Home or Professional Edition, Server Pack 2
 - Windows 2003 Server Standard Enterprise or Web Edition, Service Pack 1
 - Red Hat Enterprise Linux 4 (RHEL4) WS, ES, AS
 - SuSE Linux Enterprise Server 9 (SLES9)
- Internet Explorer 6.0 SP1 or later web browser (Windows operating systems only)

- Java JRE version 1.4.2 or later

6.3 OSCAR Refresh Rates

On-Screen Configuration and Activity Reporting interface (OSCAR®) synchronizes to the following refresh rates.

Resolution	Refresh Rate	Horizontal Frequency
640 x 480	60 Hz	31.5 Khz
640 x 480	72 Hz	37.9 Khz
640 x 480	75 Hz	37.5 Khz
640 x 480	85 Hz	43.3 Khz
800 x 600	60 Hz	37.9 Khz
800 x 600	72 Hz	48.1 Khz
800 x 600	75 Hz	46.9 Khz
800 x 600	85 Hz	53.7 Khz
1024 x 768	60 Hz	48.4 Khz
1024 x 768	72 Hz	56.5 Khz
1024 x 768	75 Hz	60.0 Khz
1024 x 768	85 Hz	68.7 Khz
1152 x 864	75 Hz	67.5 Khz
1280 x 768	60 Hz	60.0 Khz
1280 x 768	85 Hz	85.9 Khz
1280 x 1024	60 Hz	64.0 Khz
1280 x 1024	75 Hz	80.0 Khz
1280 x 1024	85 Hz	91.1 Khz
1600 x 1200	60 Hz	75.0 Khz
1600 x 1200	70 Hz	87.0 Khz
1600 x 1200	75 Hz	93.8 Khz

Table 2: Refresh Rates

Resolution	Refresh Rate	Horizontal Frequency
1600 x 1200	85 Hz	106.3 Khz

Table 2: Refresh Rates (Continued)

6.4 Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Fujitsu Siemens product. If an issue should develop, follow the steps below for the fastest possible service: Check the pertinent section of this manual to see if the issue can be resolved by following the procedures outlined. Check our web site at <http://www.fujitsu-siemens.com/support> and click on *Services & Support*. Click *helpdesk* on the left side of the page for a listing of technical support phone numbers in your area.

6.4.1 Before you call

Before you call, make sure that you have taken these steps to try to solve the problem yourself:

- Check all cables to make sure that they are connected.
- Check the power switches to make sure that the system and any optional devices are turned on.
- Use the troubleshooting information in your system documentation, and use the diagnostic tools that come with your system.
- Go to the Fujitsu Siemens support Web site at <http://www.fujitsu-siemens.com/support/> to check for technical information, hints, tips, and new device drivers or to submit a request for information.

You can solve many problems without outside assistance by following the troubleshooting procedures that Fujitsu Siemens provides in the online help or in the documentation that is provided with your Fujitsu Siemens product. If you suspect a software problem, see the documentation for the operating system or program.

